Docket No.: 219002028310
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Babu J. MAVUNKEL et al.	Confirmation No.: 9859
Application No.: 10/076,131	Art Unit: 1625
Filed: February 13, 2002	Examiner: C. Chang
For: COMPOUNDS AND METHODS TO TREAT CARDIAC FAILURE AND OTHER DISORDERS	**AFTER FINAL** **EXPEDITED PROCEDURE**

DECLARATION OF BABU J. MAVUNKEL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

I, Babu J. Mavunkel, declare as follows:

1. I am the same chemist listed as an inventor on U.S. Patents 6,130,235, 6,340,685, 6,448,257, and 6,589,954. I have been working in the field of organic chemistry and specializing in drug discovery for 25 years. A copy of my *curriculum vitae* is attached as Exhibit A.

2. I have reviewed the specification and claims currently pending in the above-referenced case. I understand that the Office has rejected the pending claims because the claim term "including one or more heteroatoms", which describes certain of the alkyl and aryl groups within the claim scope, is not clear. I understand that the standard to be applied in assessing the clarity of claim language is "the broadest reasonable interpretation consistent with the specification."

3. From my own experience as a practicing organic chemist, I state that the phrase "optionally including one or more heteroatoms" would be understood to mean that the optional

heteroatoms referred to can replace a carbon atom in the backbone or skeleton of the named alkyl or aryl group. The phrase would not be understood to refer to an appended heteroatom, which would be considered a 'substituent'.

4. I further state that in the specific context of the present claims, where the groups described as "including one or more heteroatoms" are also described as optionally substituted by specifically named substituents, the phrase "including one or more heteroatoms" could not reasonably be understood to describe heteroatoms other than those included within the backbone of the named hydrocarbon group. The separate description of the optional substituents would cover any heteroatoms attached to that backbone group.

5. I further state that a description of alkyl groups in the specification leads to the same conclusion. The specification says, "The alkyl or substituted alkyl may optionally include one or more heteroatoms which can be O, N or S, preferably N and O." The separation of 'alkyl' and 'substituted alkyl' distinguishes two types of alkyl groups, one with substituents and one without. The phrase "optionally including one or more heteroatoms," which is used to further describe these alkyl groups, can only reasonably be understood to describe variations of these groups other than substitutions. Thus the 'optionally included' heteroatoms must be heteroatoms that are permitted to replace carbon atoms within the backbone or skeleton of the alkyl groups being described.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements

are made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Executed at Fremont, (city) CA (state) on 12 September (day) (month) 2005.

Babu J. Mavunkel

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Education:

Ph.D., Organic Chemistry, May 1978
Goethe University, Frankfurt, Germany

Master of Science & Bachelor of Science, 1963 - 1968
University of Kerala, India

Experience:

Design and synthesis of peptide mimetics, synthesis of heterocyclic compounds of medicinal nature for anticonvulsants, sigma receptor antagonists, opiates, bradykinin antagonists, CRF antagonists, P38 kinase inhibitors. As chemistry leader supervised up to ten scientists and managed overall operations of chemistry laboratory.

Career Background:

11/84 – 12-94

Scios Nova Inc., Baltimore, Maryland
Staff Scientist and Group Leader
Design and synthesis of pseudo and nonpeptide bradykinin antagonists and manages the medicinal chemistry laboratory.

1/95-present

Scios Inc. Fremont, CA
Staff Scientist & Group Leader
Designed and synthesized p38 kinase inhibitors which resulted in the identification of SCIO-469, SCIO-323 & SCIO-087.

7/81 - 10/84

University of Virginia, Virginia
Research Associate
Design and synthesis of bis cationic heterocycles as potential trypanocides.

7/79 - 6/81

Clemson University, SC.
Synthesis of benzothiazepinedioxides and other heterocycles from sacchrine as potential anticonvulsants.

Languages:

Fluent in German

Professional Associations: American Chemical Society

Interests: Fishing, Volley Ball, and Soccer

Publications:

1. B. Mavunkel and W. Ried. Umsetzung von 2-Benzoyl-3-Chlor-Benzo-(b)-Thiophen-1,1-Dioxide mit Scheflverbindungen. *Chem. Ber.* **1977**, 1356-1368.

2. B. Mavunkel, W. Ried and G. Oremek. Neue Reactionen von 2-Benzoyl-3-Chlor-Benzothiophen-1,1-Dioxide Mit Aminoverbindungen. *Ann. Chem.***1978**, 1274-1279.

3. B. Mavunkel and W. Ried. Neue Heteroanellierte Benzo-(b)-Thiophene-1,1-Dioxid. *Chem. Ber.* **1978**, 1274-1279.

4. B. Mavunkel, G. Oremek , W. Ried and U. Seiffert. Cyclisierungsreaktionen Von 3-Chlor-benzo[b]thiophen-2- carbonsaeurechlorid-1,1-dioxid mit Bisnucleophilen. , *Chemiker-Zeitung*, **1983**, 107, 369-70.

5. R.A. Abramovitch, B. Mavunkel and J.R. Stowers. 1, 2-Benzisothiazole, 1,2-Dioxide: a convenient Synthesis; question of possible Aromaticity of 1,2-Benzothiazepine-1,1-Dioxide. *J. of Chem. Soc.*, Chem. Commun. **1983**, 520.

6. R.A. Abramivitch, B. Mavunkel, J.R. Stowers, M. Wegrzyn and C. Riche. A Simple Synthesis of Conjugated Imine-α-Thio and α-Seleno-vinylamines. *J. Chem. Soc., Chem. Commun.* **1985**, 845.

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10. B.J. Mavunkel, Z. Lu and D.J. Kyle. Asymmetric Synthesis of (R)- And (S)-Enantiomers of Novel Phenylalanine Homologues. *Tetrahedron Lett.* **1993**, 34, 2255-58

11. D.L. Dehaven-Hudkins, K.M. Komer, J.A. Peterson, B.J. Mavunkel and W.J. Rzeszotarski. Opioid Agonist Properties of Two Oxime Derivatives of Naltrexone, NPC 831 and NPC 836. *Pharmacology, Biochemistry and Behaviour* **1993**, 44, 45-50.

12. S. Chakravarty, B.J. Mavunkel, S. Lu, D.E. Wilkins and D.J. Kyle. A Systematic Study of the SAR in Second Generation Bradykinin Antagonists Leads to the Design of the First High Affinity Cyclic Peptide Antagonists. Proceedings of the 13th American Peptide Symposium. In: *Peptides, Chemical Structure and Biology*. Robert S. Hodges and John A. Smith (Eds.), **1993**, 381.

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3. B. Mavunkel, W.J. Rzeszotarski, J.G. Pack, D.L. Dehaven and L.R. Steranka. 6-Oximinonaltrexone Ethers as Opioid Receptor Antagonists and Appetite Suppressants. ACS National Conference. Denver, CO, **1986**.

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5. D.J. Kyle, W.J. Rzeszotarski, R.L.Hudkins, M.E. Guzewska, B.J. Mavunkel and J.H. Ferkany. Antagonists of NMDA Type Excitatory Amino Acids. 21st Middle Atlantic Regional ACS Meeting. Pomona, NJ, **1987**.

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10. B. Mavunkel, S. Lu, Z. Lu, S. Chakravarthy, R. Andy and D. Kyle. Synthesis and Biological Evaluation of Novel Pseudopeptidew Bradykinin B2 Receptor Antagonists. ACS National Conference. Washington, D.C., **1994.**

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12. B.J. Mavunkel, S. Chakravarty, R. Andy, D.J. Kyle. Synthesis and Characterization of a Combinitorial Library: Application to the Discovery of a Bradykinin B_2 Receptor Antagonost. Fourth International Symposium, "Solid Phase Synthesis", Edinbourgh, Scotland, **1995.**

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Patents

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2. "Oximes of Oxymorphone, Naloxone and Naltrexone as Potent Receptor Agonists and Antagonists." B. Mavunkel and W.J. Rzeszotarski. US # 48, 89, 860, issued at Dec. 26, 1989.

3. "Novel Pseudopeptide Bradykinin Receptor Antagonists." B. Mavunkel and D.J. Kyle. US Patent Appl. (1992). SN 07/957, 879.

4. "Bradykinin Antagonist Pseudopeptide Derivatives of Olefinic Aminoalkanoic Acids." D.J. Kyle and B. Mavunkel. US Patent Appl. 1993, SN 08/118, 550.

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8. Compounds and methods to treat cardiac failure and other disorders. US Patent # 6340685

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13. Inhibitors of p38 Alpha kinase. US Patent # 6541,477.

14. Piperidine/piperazine-type of inhibitors of p38 Alpha kinase. US Patent # 6696, 443.

15. Indole-type derivatives as p38 Alpha kinase. Serial # 09/575,060.

16. Indole-type derivatives as p38 Alpha kinase. Serial # 10/157,048

17. Indole-type derivatives as p38 Alpha kinase. Serial # 10/156,997.

18. Indole-type derivatives as p38 Alpha kinase. Serial #10/156,996.

19. Benzofuran derivatives as p38 Alpha kinase. Serial # 10/146,703

20. Indole-type derivatives as p38 Alpha kinase. Serial # 10/654,840